



The Data Warehouse

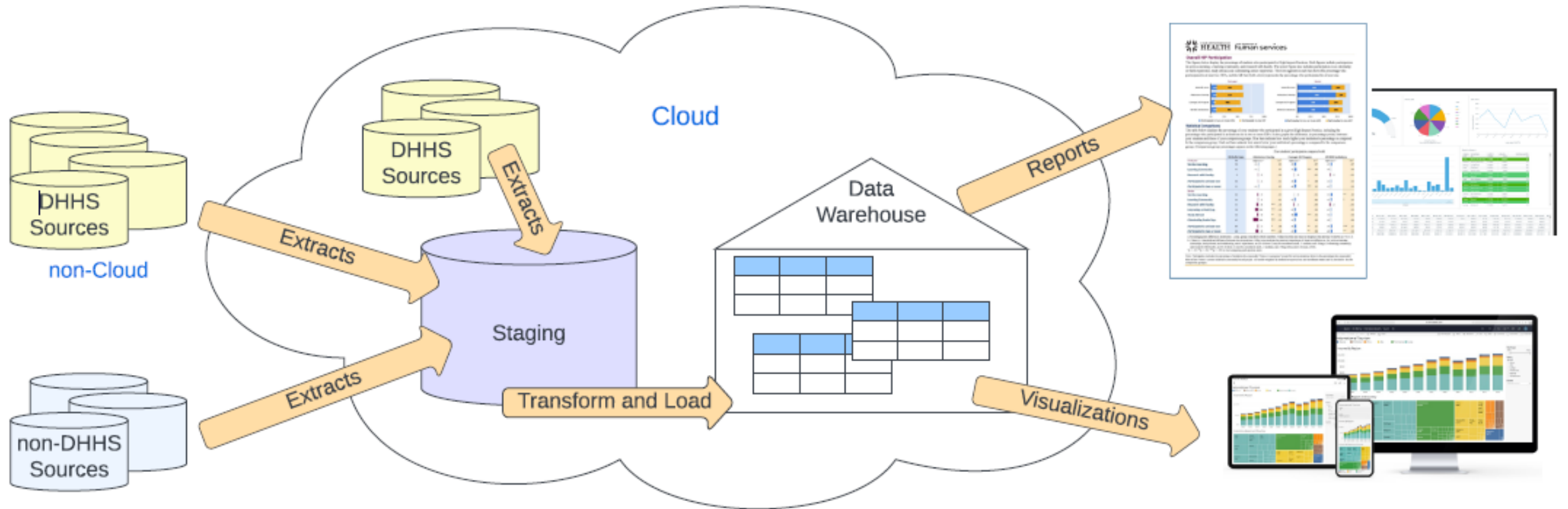
Utah Department of Health and Human Services (DHHS)



Background

- ▶ The DHHS data warehouse (DW) is an AWS cloud-based replication of an earlier server-based (MS SQL Server) DW
- ▶ The DW is a collection of management information from internal and external sources used for reporting and data analysis.
- ▶ **The purpose of a DW is to make accurate and integrated information easily accessible, timely, and consistent to authorized users.** The DW supports the administration in planning, operations, auditing, performance measurement, program improvement, interdepartmental coordination, and other administrative functions.
- ▶ The DW must be adaptable to meet advancing business and technological needs and to secure and protect information assets.

DHHS Data Warehouse Flow of Information





Background

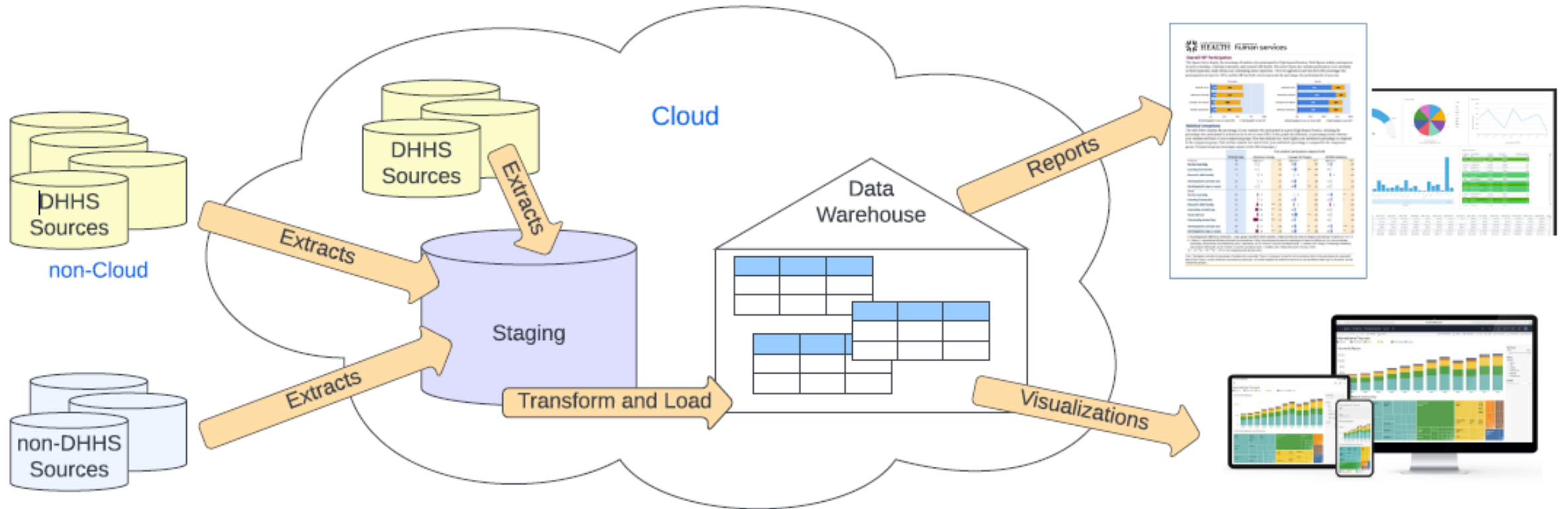
- ▶ **Select** and **lawful** data are extracted from DHHS and external sources to the cloud-based staging area. Some data sets originate from cloud-based applications while others come from non-cloud sources.
- ▶ **Defined data** are transformed and loaded into the DHHS data warehouse. Identified, de-identified, limited, and restricted data sets are stored in different parts of the DW according to the authorized use and need of the information. **The DW imports the minimum necessary information needed for use rather than all the information from a source system.** Partial or completely deidentified data sets meet the needs of some users while more detailed records are necessary for other users.



Background

- ▶ Information from the data warehouse is **accessed exclusively by approved users who query only those parts of the DW to which they are authorized** to produce reports and visualizations.
- ▶ The DW access policy applies to the data warehouse and its products only and not to access of source data systems or the staging area. Authorized users are granted access only to those records in the DW pertaining to their defined role and need. **Access to the DW or its products does not enable entry to the staging area or source data systems.**

DHHS Data Warehouse Flow of Information





Current sources of data


- ▶ The DW brings together data from different information systems from DHHS divisions and from other state agencies. Sources and content are continually updated.
- ▶ Before a data source is added to the warehouse, the DW team will work with the AAGs office, the Chief Privacy & Security Officer, and the appropriate data steward to ensure there is authority to import and store the data for the intended purpose.
- ▶ Some sources are refreshed daily while others are updated weekly or less frequently. A current list of sources and a data dictionary are maintained in the [Current DHHS DW Data Guide](#).

DEPT	Source	C/F	Priority	Compliance	Data Classification	Description
DHS	AEM	Current	n/a	HIPAA	Restricted	extract data from AEM forms for reporting
DHS	BMS	Current	n/a			Defendant and offender outcomes from the JJS BMS application.
DHS	CAPS	Current	n/a	PII	Restricted	extract payment information from CAPS for reporting
DHS	CAPS File	Current	n/a			CAPS drops file to data warehouse when it sends payments to DOH - file extracted to track payments sent to DOH
DHS	CARE	Current	n/a	HIPAA	Restricted	Receive JJS specific data over SFTP.
DHS	DHS Telehealth File	Current	n/a	HIPAA	Restricted	telehealth file with call date emailed to us from the vendor, Teladoc - extracted for telehealth dashboard
DWS	DHSDWSConnect API Gateway	Current	n/a			Share case worker information for DHS clients matching DWS clients via API
DOH	DMHF Data Warehouse	Current	n/a			extract Title XIX and AAA data from DOH Data Warehouse
DOH	DOH Files	Current	n/a			CP159 files emailed - extracted for reporting
						DWS sends file with all of their clients, that file is matched to DHS clients and we send a file back to them with case worker contact information. DWS then uses that file to send us back a third file with specific program information for DHS clients served by DWS
DWS	DWS Files	Current	n/a			
DHS	FES	Current	n/a	HIPAA	Restricted	extracts FES evaluations for DW reporting
DHS	FIDS	Current	n/a	HIPAA	Restricted	Receive fatalities from DOH via email and match against DHS clients and extract to fatalities stub file on FIDS
	FINET	Current	n/a			extract employee information from FINET
DHS	FiTS	Current	n/a	PII	Restricted	extract DHS locations to export to AEM
	GOMB Blueprint Solution API Gateway	Current	n/a			Provide API connection to provide case worker contact information for clients in specific programs in JJS and DCFS
DHRM	HREDWH	Current	n/a			extract employee information from DHRM
DHS	LDAP Files	Current	n/a			ldap information extracted for use in PowerDMS sync and employee tables in DHS DW
DHS	LION	Current	n/a	PII	Restricted	extract licensing information for reporting
DHS	PSIC and Maysi	Current	n/a	HIPAA	Restricted	extract data for JJS to use so they don't have to hit prod server - really for JJS reporting only
DHS	MyLicense Office	Current	n/a	PII	Restricted	Extracts licensing information for OL, and certification info for DSAMH. Data is used for reporting.
DHS	PASRR	Current	n/a	HIPAA	Restricted	extract JV Competency for DW reporting
	RMS File	Current	n/a			Receive files from IVA Inc - compare those employees listed in their system to those in FINET that should be part of the RMS group and create reports of changes needed
	SABA Files	Current	n/a			Received file via SFTP for completed trainings
DHS	SAFE	Current	n/a	HIPAA	Protected	Pull data off of SAFE read only Instance. SAFE pulls data directly from Data Ware House
	USBE File	Current	n/a			Download files from USBE Secure File Transfer system - start by uploading client file, then they process that and return matching students test scores, course enrollment, HS completion information
DHS	USDC Files	Current	n/a			Received files view SFTP for use in executive dashboard
DHS	USTEPS	Current	n/a	HIPAA	Restricted	DSPD client records pulled into Data Warehouse
DOH	OHV Penelope	Future	1		Restricted	Captures client data for families enrolled in home visiting.
DOH	BTOTS	Future	1	HIPAA, FERPA	Restricted	Utah's Part C Early Intervention Data Management System
DOH	DOHMPI	Future	1	PII	Restricted	Master Person Index, could be used to provide record linkages accross systems. Involvement TBD.
DOH	EDEN	Future	2		Restricted	Death Registry - inform other systems who is deceased.
DOH	UINTAH	Future	3		Restricted	Birth Registry - Might be helpful for certain early childhood systems and/or research/reporting

A	B	C	D	E	F	G	
Table Name	Column Name	Data Type	Definition	Source	db_data_tpy	character_m	is_max
service	provider_id	character varying	identification value of provider	USTEPS	varchar	65535	N
service	service_start_date	timestamp without time zone	starting service date		timestamp		N
service	service_end_date	timestamp without time zone	ending service date		timestamp		N
service	service_agency	character varying	agency involved with service		varchar	4	N
service	pid	character varying	personal identification value		varchar	65535	N
service	service_description	character varying	description of service		varchar	65535	N
service	worker_id	character varying	identification value of worker		varchar	65535	N
service	region_code	character varying	coded value for region		varchar	65535	N
service	region_office	character varying	region office involved with service		varchar	65535	N
service	cost	numeric	cost of service		numeric		N
service	days_of_service	bigint	amount of days in service		int8		N
service	age_at_start_of_service	integer	client's age at beginning of service		int4		N
service	safe_case_id	character varying	identification value of SAFE case		varchar	11	N
service	dspd_close_reason	character varying	always NULL		varchar	1	N
service	eligibility_code	character varying	2-letter designation of eligibility type (ref: bcm_service_codes table)		varchar	65535	N
service	dcfs_id	character varying	difference between this ID and SAFE?		varchar	11	N
service	dspd_id	character varying	identification value for USTEPS		varchar	65535	N
service	jjs_id	character varying	identification value for CARE		varchar	65535	N
service	mod_dt	timestamp without time zone	modification date		timestamp		N
service_desc	source_system	character varying	origin of division source system	SAFE	varchar	4	N
service_desc	service_type	character varying	acronym for type of service	CARE	varchar	65535	N
service_desc	service_desc	character varying	description of service	USTEPS	varchar	65535	N
service_desc	safe_case_type	integer	numeral indicating type of SAFE case		int4		N
service_desc	safe_placement_type	integer	numeral indicating type of SAFE placement		int4		N
service_desc	service_cat	character varying	category description of service for SAFE and CARE		varchar	65535	N
service_desc	mod_dt	timestamp without time zone	modification date		timestamp		N
supervision	client_id	character varying	identification value of client	CARE	varchar	33	N
supervision	supervision_start_date	timestamp without time zone	starting date of supervision		timestamp		N
supervision	supervision_end_date	timestamp without time zone	ending date of supervision		timestamp		N
supervision	supervision_agency	character varying	agency involved with supervision		varchar	7	N
supervision	status	character varying			varchar	65535	N
supervision	days_of_supervision	bigint	number of days under supervision		int8		N
supervision	age_at_start_of_supervision	integer	client's age at beginning of supervision		int4		N
supervision	mod_dt	timestamp without time zone	modification date		timestamp		N
table_rows	table_schema	character varying	name of schema in redshift	DHS DW	varchar	128	N
table_rows	table_name	character varying	name of table in schema		varchar	128	N
table_rows	rows	numeric	number of rows in table		numeric		N
telehealth_data	waitingroom	character varying	instance of the telehealth program	INTOUCH FILE	varchar	65535	N
telehealth_data	visitid	character varying	identification value of visit		varchar	11	N
telehealth_data	patientid	character varying	identification value of patient		varchar	65535	N



Current sources of data

- ▶ At present, the data warehouse includes information about specific human services rendered or contracted by DHHS (formerly DHS systems) to individuals with associated demographic information.
 - ▶ The potential scope and content of the DW is expected to increase dramatically in the next few years (ARPA project)
- 




Accessing data from the DW


- There are generally two types of DW users
 1. Casual users – includes administrators, project managers, auditors, and other elementary users who consume information through reporting tools and views made available by power users
 - a. QuickSight users – most consumers of DW data
 - i. Authors – users who create interactive dashboards, visualizations, lists, and reports using advanced QuickSight capabilities such as parameters and calculated fields
 - ii. Readers – consume interactive dashboards and reports. They may filter data, drill down to details, or export data as a CSV file
 - b. Direct access users – includes users whose applications (often Excel) connect directly to DW views and/or tables through ODBC (Open Database Connectivity)



Accessing data from the DW

- ▶ There are generally two types of users of information from the DW
 1. Casual users – includes administrators, project managers, auditors, and other elementary users who consume information through reporting tools and views made available by power users
 2. Power users – includes database administrators, developers, and data scientists who setup, configure, and manage the system at a database level to enable use by QuickSight and direct access users
- 

QuickSight Demo

 QuickSight

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New


New

 Dashboard

DSPD Forecast Tables

Updated 3 days ago


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 Dashboard

DEMO dashboard for brow...

Updated 5 days ago


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 Dashboard

DHS Title IV-E Eligibility da...

Updated 5 days ago


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 Dashboard

OL - monthly reports - OL2...

Updated 7 days ago


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 Dashboard

LION - Background screeni...

Updated 14 days ago


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DHS JIRA Project Status

Updated 14 days ago


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AEM - Conflict of Interest

Updated 18 days ago


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QSR Sample Report

Updated 20 days ago


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Mental Health Medicaid Pa...

Updated 25 days ago


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Medicaid Payments - COS 2...

Updated 25 days ago


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CAPS Payment

Updated 25 days ago


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MI706 - CP159

Updated a month ago


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BCM

Updated a month ago


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AAA TitleXIX Denials

Updated a month ago


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AAA Payments by AAA Na...

Updated a month ago


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AAA Payments by provider, ...

Updated a month ago


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DSPD Title XIX

Updated a month ago


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LION - licensing reporting d...

Updated 2 months ago


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LION - historical data

Updated 2 months ago


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Licensing caseload

Updated 2 months ago


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 Dashboard

lion facility attachment - O...

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
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 Dashboard

CAPS Weekly Verification R...

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
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HR - DCFS

Updated 3 months ago


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CAPS Payments by FY and ...

Updated 3 months ago

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 Dashboard

CAPS 1099 Reconcile 2021

Updated 3 months ago

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